REMARKS

Claims 1-50 are pending. Pursuant to the Applicants' election of claims 1-12, claims 13-50 are cancelled herein without prejudice. Claims 51-59 are added. Accordingly, claims 1-12 and 51-59 are at issue.

Claim 6 stands rejected under 35 U.S.C. § 112 as being indefinite. Claim 6 is amended to address the indefiniteness noted in the Action.

Claims 1-4, 6-8, and 11 stand rejected under 35 U.S.C. § 102(b) as anticipated by Hamada et al. (JP 110042560A, hereinafter "Hamada et al."). Claims 5 and 12 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Hamada et al. Claims 9 and 10 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Hamada et al. in view of Garnett et al. (U.S. Patent 5,931,069, hereinafter "Garnett et al.").

The rejections, as they may apply to the claims presented herein, are respectfully traversed.

Claim 1 is directed to a rolling apparatus for rolling a workpiece rotatable about a rotational axis and includes a rolling arm and an arm support that supports the arm so that it can follow the workpiece as it rotates for being rolled. First and second rolling heads each including at least one roller are mounted on the arm and are adapted to engage and apply pressure to the workpiece during a rolling operation. A drive associated with the arm shifts one of the first and second rolling heads relative to the other rolling head between an open position that provides clearance between the heads for a workpiece bearing to be rolled, and a closed position for undertaking the rolling operation. As amended, Claim 1 calls for guide surfaces of the arm and the one rolling head that guide the shifting of the one rolling head by the drive from the open position to the closed position with the guide surface of the one rolling head engaged with the guide surface of the arm when the

one head is shifted to the closed position. It is submitted that Hamada et al. clearly lack the guide surfaces called for in claim 1.

More particularly, Hamada et al. disclose a C-shaped roll frame 3 that includes upper and lower leg portions 3a and 3b such that the roll frame defines an opening that faces laterally outward with the crankshaft located between the vertically spaced arm portions 3a and 3b for a rolling operation, as can be seen in Figure 1(b). A drive cylinder 4 is mounted on top of the C-frame upper leg portion 3a with its drive rod extending therethrough to the tool head 6. In the Action, it is asserted that there are slide or guide surfaces between the piston 4 and the frame portion 3a. Nevertheless, there is no showing of guide surfaces on the rolling head 6, as required in claim 1. Further, claim 1 requires that there be guide surfaces of the arm and the one rolling head so that these guide surfaces are engaged when the head is shifted to the closed position. As can be seen in Figure 1(b) of Hamada et al., the rolling head 6 is completely spaced from the C-frame 3 when it is shifted to its closed position. Accordingly, it is believed that claim 1, and claims 2-12, and 51-59 which depend cognately therefrom, are allowable over Hamada et al.

Several of the originally-filed dependent claims recite further limitations that further delineate over the relied-upon art. For instance, claim 8 calls for the arm support to be a lever having spaced ends with one end pivotally connected to the rolling arm for pivoting of the arm in one direction, and an axial shift assembly to which the other end of the arm is pivotally connected for pivoting of the lever arm in another direction. Hamada et al. has a connection arm 3c. A pin of the roll frame stand 2 extends through a slot in the connection arm 3c toward the rear thereof with the arm rigidly connected at its forward end to the frame 3. Accordingly, unlike the lever recited in claim 8 that is pivotally connected to the rolling arm, the arm 3c is

rigidly connected to the frame 3 at its forward end. Further, the stand 2 is not an axial shift assembly as called for in claim 8.

Claim 9 calls for a counterweight at an opposite end of the rolling arm from the first and second rolling heads. Garnett et al. is relied upon for its teaching of a counterweight 186. However, in Garnett et al., the counterweight 186 is bolted to eccentric spindle housing 130 of spindle assembly 46 for a crankshaft turning machine 10. There is no suggestion in Garnett et al. for use of the counterweight that they disclose at one end of a rolling arm to counterbalance the weight of first and second rolling heads at the other end of the arm, as called for in claim 9. In Garnett et al., the counterweight 186 is used to dynamically balance a rotating component, whereas the counterweight recited in claim 9 is to compensate statically for the heavier weight at the rolling tool end of the rolling arm. Claim 10 depends from claim 9 and calls for the arm support to be a pivoted lever which is pivotally connected to the rolling arm between the rolling heads and the counterweight. Again, no such pivoted lever is shown being pivotally connected to the rolling arm as instead the connection arm 3c includes a pin and slot connection to the stand 2, and not the roll frame 3. Further, there is no counterweight contemplated for the roll frame 3 or connection arm 3c thereof in Hamada et al.

Dependent claim 12 recites the drive being a hydraulic cylinder for shifting of the second rolling head to the closed position with a portion of the rolling arm being positioned behind the hydraulic cylinder to resist the forces applied during the rolling operation. In the Action, it is asserted that the arrangement of the arm portion behind the hydraulic cylinder would be obvious as there is no disclosure that the recited configuration "solves any stated problem or is for any particular purpose." However, Applicants have both disclosed and claimed that the reason for the positioning of the cylinder behind a portion of the rolling arm is to resist the

forces applied during the rolling operation, as set forth in claim 12 and described at page 18, lines 24-29. The disclosed and claimed arrangement provides a more robust support of the hydraulic cylinder during rolling operations when it is operable to shift the second rolling head into clamped engagement with the workpiece bearing.

Accordingly, for all these additional reasons, claims 8-12 are believed allowable over the relied-upon art.

Added claims 51-59 depend cognately from claim 1 and recite further limitations that further delineate over the relied-upon art. For instance, claim 51 states that the guide surfaces are bearing surfaces on the arm and one rolling head that substantially stay engaged with each other as the head is shifted from the open to the closed position. In contrast, Hamada et al. has their corresponding rolling head 6 completely spaced from the C-frame 3 when the rollers 5 are clamped on the workpiece. Claim 52 depends from claim 51 and states that the rolling head stays approximately the same distance from the arm bearing surface as the one rolling head is shifted from the open to the closed position. If the surfaces in the frame arm portion 3a are viewed as bearing surfaces for the rolling head 6 (which they are not), then it can be seen that the head 6 shifts further away from the surfaces as it moves from its corresponding open position to engagement with the bearing to be rolled. For these additional reasons, claims 51 and 52 are believed allowable over the relied-upon art.

Claim 53 calls for the drive to be a hydraulic cylinder with an actuator rod that is fixed to the rolling head. The rod extends and retracts as the rolling head is shifted between open and closed positions. In Hamada et al., the cylinder and its actuator rod are supported by the C-frame, whereas the rolling head 6 is not unlike the one rolling head called for in claim 1. Accordingly, claim 53 makes it perfectly clear that the actuator rod and one rolling head of claim 53 are different components,

and the guiding of the actuator rod by the C-frame in Hamada et al. is not relevant to the guiding of the one rolling head claimed herein. Claim 54 depends from claim 53 and calls for the cylinder to have a thin and relatively tall construction to include multiple bores and drive pistons therein. No such construction for a hydraulic cylinder is shown Hamada et al. Accordingly, it is believed claims 53 and 54 are allowable for these additional reasons over the relied-upon art.

Claim 55 calls for the rolling heads to define a generally upwardly opening jaw in the open position which allows the arm to be lowered for workpiece loading and raised to position the rolling heads on either lateral side of the workpiece bearing for undertaking the rolling operation. The corresponding jaw formed by the rolling tool heads 6 and 8 of Hamada et al. mounted to the C-frame 3 form a sideways or laterally opening jaw, and thus do not allow the arm to be lowered and raised as called for in claim 55. Claim 56 depends from claim 55 and states that the arm support includes a pivotal support member pivotally attached to the arm to support the arm to extend generally in a horizontal direction with the support member extending generally in a vertical direction. Hamada et al. clearly lack a rolling arm that extends in a horizontal direction and including the upwardly opening jaw of claim 55. Claim 57 depends from claim 56 and calls for a counter-weight attached to the arm with the rolling heads on one side of a pivot connection between the pivotal support member and the rolling arm, and the counterweight at the other side of the pivot connection so as to keep the arm generally extending in the horizontal direction. As previously discussed, no such counterweight is disclosed or suggested by the relied-upon art. Accordingly, claims 55-57 are believed allowable for these additional reasons.

Claim 58 calls for the arm support to be a pivotal support member and further requires a frame support that extends axially to allow the pivotal support

member and the rolling arm supported thereby to be shifted axially substantially parallel to the workpiece rotational axis. An axially extending frame support as called for in claim 58 is not shown by Hamada et al. Claim 59 depends from claim 58 and states that the pivotal support member includes spaced ends with one end being pivotally connected to the rolling arm. Claim 59 further requires a suspension member supported for axial shifting along the frame support and to which the other end of the pivotal support member is pivotally connected. As previously discussed, Hamada et al. lack a pivotal support member that is pivotally connected at both its ends, as called for in claim 59. Further, Hamada et al. do not show a suspension member, as recited in claim 59. For these additional reasons, claims 58 and 59 are believed allowable over the relied-upon art.

Based on the foregoing, reconsideration and allowance of claims 1-12, and consideration and allowance of claims 51-59, are respectfully requested.

Respectfully submitted,

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